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(54) Title: 7-ETHYNYL-2,4,9-TRITHIAADAMANTANE AND RELATED METHODS

(57) Abstract: 7-ethynyl-2,4,9-trithiaadamantane and related methods are presented. Manufacturing 7-ethynyl-2,4,9-trithiaadamantane includes the steps of: (1) reducing alkyl 2,4,9-trithiaadamantane-7-carboxylate to produce 7-hydroxymethyl-2,4,9-trithiaadamantane; (2) oxidizing 7-hydroxymethyl-2,4,9-trithiaadamantane to produces 7-carbonyl-2,4,9-trithiaadamantane; and (3) reacting 7-carbonyl-2,4,9-trithiaadamantane with Ohira-Bestmann reagent to produces 7-ethynyl-2,4,9-trithiaadamantane. Molecular wires having 2,4,9-trithiaadamantane surface anchors are also disclosed.